

Amendment and Response

Applicant: Peter J. Fritz

Serial No.: 10/081,794

Filed: February 21, 2002

Docket No.: M120,169.103 / 54666US006

Title: METHOD FOR ATTACHING A FASTENER TO A SURFACE TREATING MEMBER, AND SUCH AN ARTICLE HAVING A FASTENER

IN THE CLAIMS

Please add claims 57-60 as follows:

1. – 30. (Cancelled)

31.(Previously Presented) A method for attaching a fastener to a surface conditioning member, comprising the steps of:

- a) inducing relative rotation between a fastener and a surface conditioning member with a layer of thermoplastic adhesive in contact with a planar surface of the fastener and the surface conditioning member so as to soften the layer of adhesive to form a bond between the fastener and the surface conditioning member; and
- b) thereafter stopping the relative rotation between the fastener and the surface conditioning member.

32.(Original) The method of claim 31, wherein the layer of adhesive comprises a sheet of adhesive.

33.(Withdrawn) The method of claim 32, wherein the sheet of adhesive comprises a disc of adhesive.

34.(Withdrawn) The method of claim 31, wherein the layer of adhesive comprises an annulus of adhesive.

35.(Original) The method of claim 31, wherein the surface conditioning member includes a working surface and a back surface opposite said working surface, and wherein step a) includes inducing relative rotation between the fastener and the surface conditioning member with the

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layer of adhesive in contact with the planar surface of the fastener and the back surface of the surface conditioning member.

36.(Original) The method of claim 35, wherein the surface conditioning member comprises an abrasive member.

37.(Original) The method of claim 36, wherein the working surface comprises a coated abrasive.

38.(Original) The method of claim 36, wherein the working surface comprises a non-woven surface.

39.(Original) The method of claim 31, wherein the fastener comprises a thermoplastic material.

40.(Original) The method of claim 39, wherein the fastener comprises nylon.

41.(Withdrawn) The method of claim 31, wherein the fastener comprises metal.

42.(Withdrawn) The method of claim 41, wherein the fastener comprises steel.

43.(Original) The method of claim 41, wherein the layer of adhesive comprises a thermoplastic adhesive.

44.(Original) The method of claim 43, wherein the layer of thermoplastic adhesive comprises a thermosettable thermoplastic adhesive.

45.(Original) The method of claim 31, wherein the fastener includes a generally planar base and a drive member, wherein the planar base includes the planar surface and a second surface

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opposite the planar surface, and wherein the drive member extends from the second surface of the planar base.

46.(Original) The method of claim 31, wherein step a) comprises inducing a relative rotation of from 2,000 to 10,000 RPM.

47.(Original) The method of claim 31, wherein step a) comprises applying a compressive force of between 5 and 90 pounds between the fastener and the surface conditioning member.

48.(Previously Presented) The method of claim 47, wherein step a) causes the planar surface of the fastener to soften and bond with the surface conditioning member.

49.(Withdrawn) The method of claim 35, further comprising the step of coating the layer of adhesive on the back surface conditioning article prior to step a).

50.(Withdrawn) The method of claim 49 further comprising the step of coating substantially all of the back surface of the surface conditioning article with the layer of adhesive prior to step a).

51.(Withdrawn) The method of claim 31, further comprising the step of coating the layer of the adhesive on the planar surface of the fastener prior to step a).

52.(Original) A surface treating article, prepared according to the method of claim 31.

53.(Previously Presented) The method of claim 31, wherein the planar surface of the fastener is parallel to the surface conditioning member.

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54.(Previously Presented) The method of claim 32, further comprising the step of placing the sheet of adhesive between the fastener and the surface conditioning member prior to step a).

55.(Withdrawn) The method of claim 34, further comprising the step of placing the annulus of adhesive between the fastener and the surface conditioning member prior to step a).

56.(Previously Presented) The method of claim 31, wherein the planar surface of the fastener defines an outer portion and a central portion and further wherein the method further comprises:
bonding the fastener more firmly at the outer portion than at the central portion.

57.(New) The method of claim 31, further comprising:
prior to step a), placing a layer of adhesive having a thickness in the range of 0.05 – 0.3 cm.

58.(New) The method of claim 31, further comprising:
prior to step a), releasably mechanically fastening the surface conditioning member to a frame of a spin welding apparatus.

59.(New) The method of claim 31, wherein step a) includes:
i. rotating the fastener with the layer of adhesive not in direct contact with both of the fastener and the surface conditioning member;
ii. moving the rotating fastener toward the surface conditioning member such that the fastener is in direct contact with the layer of adhesive and the layer of adhesive is in direct contact with the surface conditioning member.

60.(New) The method of claim 31, further comprising:
prior to step a):

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providing a spin welding apparatus including a fixture and a frame, wherein the
 fixture is rotatable and is connected to the frame such that the fixture has
 only two degrees of freedom of movement relative to the frame;
attaching the fastener to the fixture; and
attaching the surface conditioning member to the frame.